

REMARKS

The enclosed Abstract and Figures 1 and 2 respond to the Examiner's objections to both the Drawings and Specification. Neither the Drawings nor the Abstract contain new matter.

Following the above amendments, claims 1-13 are amended, claims 2 and 14 are cancelled, and claims 15-18 are added. Claims 1, 3-13, and 15-18 are now pending.

Rejections based on 35 U.S.C. § 112. In the Office Action, the Examiner rejected several claims under 35 U.S.C. § 112 for various reasons. Each of these are addressed by the above amendment, and discussed below.

The Office Action relied on Ex parte Slob to reject several claims that he believes "merely set forth physical characteristics desired in an article, and [do] not set forth specific compositions which would meet such characteristics are invalid...." citing Ex parte Slob, 157 USPQ 172 (Bd.Pat.App. 1967). The Office Action rejected Claims 1, 3-5, 7, 9, 11, 12, and 14¹ for improperly citing the X-ray property. The Office Action also rejected claims 13 and 14 for improperly claiming the stiffness property.

¹ The Applicants believe the Office Action meant claim 15, not 14.

First, cases subsequent to and in a higher court than Ex parte Slob recognize the principle that there is nothing inherently wrong with claiming a part of an invention in functional terms. M.P.E.P. 2173.05(g) (“There is nothing inherently wrong with defining some part of an invention in functional terms. See also, In re Swinehart, 439 F.2d 210, 212 (C.C.P.A. 1971) (“We take the characterization 'functional', as used by the Patent Office and argued by the parties, to indicate nothing more than the fact that an attempt is being made to define something (in this case, a composition [**exactly like the current application**]) by what it does rather than by what it is (as evidenced by specific structure or material, for example). In our view, there is nothing intrinsically wrong with the use of such a technique in drafting patent claims. Indeed we have even recognized in the past the practical necessity for the use of functional language. See, for example, In re Halleck, 421 F.2d 911, 57 C.C.P.A. 954 (1970).” [comment added]. Claims having a part with functional language are clearly proper, and the Action’s rejection on this basis is unwarranted.

Claims 1, 3-5, 7, 9, 11, 12, and 15 claim fibers that have the property of absorbing X-Rays. Claiming this property does not render the claims “vague, indefinite, and functional,” as alleged in the Office Action. One of ordinary skill in the art would recognize and understand this property. It is not vague. Nor is it indefinite, as again, the fiber’s properties are merely being specified. Finally, as is

previously stated, functionality in itself is not a proper basis for rejecting a claim rejection.

Claims 13 and 14 are similarly rejected. Since claim 14 is cancelled herein, only claim 13 is at issue. Again, the Action's reliance on Ex parte Slob is misplaced. Claim 13 claims the relationship between the physical property of "stiffness" and the orientation of fibers. This function would be understandable to one of ordinary skill in the art: the physical property of the component, namely its stiffness, can be changed by changing the orientation of the fibers. This claim merely claims the function "stiffness" and how it can be changed. It is ??? not indefinite or vague.

The remaining claim rejections under §112 mostly focused on issues that arose as a result of translation of the application from German to English. Each of these is addressed in the amendment.

Claims 1, 3-5, 7, 9, 11, 12, and 15 now make clear that only one set of fibers, ones that absorb X-rays, are claimed.

Claim 2, which had previously had the phrase "high fiber content" therein is cancelled.

In claim 3, the claim is amended to remove any confusion as to a method.

In claim 5, the dependency of the claim is proper. It depends from claim 1.

In claim 6, the relationship between the matrix and the fibers has been clarified. Further, "the used fibers" is no longer a term used in the claim.

Claim 8 is amended to claim the metals listed.

Claim 9 is now an independent claim and each of the rejections of claim 9 is addressed in the amendment, by either making it independent or by removing the language that caused the rejection.

In claim 13, there is proper antecedent basis for "the connecting element"; it is in lines 1-2 of the claim.

In claim 15, the language that caused the rejection was removed.

Other amendments to the claims are made to make them clearer and make the claims comport with U.S. practice.

The rejections based on the art. The Office Action states that the burden is on the Applicant to prove that the application overcomes the prior art cited in the Action. In support of this statement, the Action cites In re Fitzgerald. But In re Fitzgerald does not apply here. In In re Fitzgerald, the burden shifted to the Applicant only *after* the Examiner had made a detailed challenge to the pending claims. In the current case, the Office Action's challenge to the claims relies on so-called reasonable presumptions, reasonable appearances, teachings that are not explicit, and unsupported conclusions as to obviousness to reject the claims over the prior art. See Office Action at pages 2-4. Having relied on these rather amorphous nonspecific conclusions, the current Action's statement as to burden-shifting is unwarranted. Unless the Examiner is more specific, the Applicants are left to *guess*

at what the Action Examiner is relying on to reject the claims. Although the prior art is believed to be traversed based on the above Amendment and the remarks that follow, should the Examiner reject the claims again, the Applicants respectfully request the Examiner to specify where each element in the claims is found in the prior art.

The Chu reference shows a multi-layer bone implant having non-metallic inner and outer layers separated by a metallic wire mesh middle layer. The goal of the reference is to increase bonding in a multi-layered bone implant; it claims to overcome a problem in multi-layered implants wherein the layers do not bond to each other. The middle layer is alternatively describes as a "braided sheath" (Col. 2, lines 30-1), a "metal wire layer" Col. 2. line 43), and also a weave (Col. 2, lines 44-5). The advantage of this weave is that it interlocks with both of the other layers and firmly holds them together. This application of a "weave" is known in drywall, concrete, and in a Kindergarten's paper-mache project.

It is not obvious for the claimed fibers embedded in a composite to allow the component to show up on an X-Ray and to increase strength. Chu does not show, describe, or suggest fibers distributed within a *single* composite wherein substantial numbers of the fibers do not contact each other, as is now claimed in claims 1, 9, and 16. In Chu, a mesh, braid, and weave all interlock the wires -- which makes sense in Chu because its goal is the bonding of two composite layers. The current

invention does not have such a goal, and thus the claims 1, 9, and 16 (and the remaining claims that depend therefrom) define a different relationship. An additional advantage of the claimed composite and process is that it reduces machining time, since forming a mesh or braid requires an extra manufacturing step which is not necessary in the current invention.

The Office Action states that Chu shows a composite rod as claimed in claims 3 and 16. In support of this, the Action relies on Chu's Figure 2. But Figure 2 does not show a rod; it shows merely a circular cross-section through the hip bone implant shown in Figure 1. Nothing in Chu or in the other prior art teaches or suggests the use of a rod to be later formed into a needed shape. Further, none of the prior art suggests the arrangements of fibers to increase strength within the implant, as claimed.

Regarding the remaining references, Loher, the German language reference, does not disclose the process claimed for thermoforming the component (claim 16) or the claimed arrangement of the X-Ray absorbing fibers within the composite (claim 1). Ellis, which forms the basis for the § 103 rejections with Loher, discloses using a gold thread within an implant, but only so that it shows up on an X-Ray, and does "not substantially interfere with the performance of the implant. The chosen material... remains highly flexible." Page 3. Ellis's gold threads do not provide reinforcement. This is in contrast to the current invention in which the claimed

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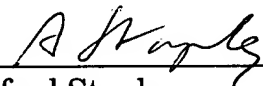
fibers are "reinforcing" and they increase the strength of the composite by their presence. A person of ordinary skill would not look to Ellis and its non-reinforced implants, when considering reinforced implant designs.

Perhaps the translated claims, and some of the confusion that led to the rejections based on 35 U.S.C. § 112 contributed to some of the prior art rejections. By responding to the § 112 rejections and based on the remarks above, the Applicants believe that the currently pending claims 1-13 and 15-18 are now in condition for allowance and corresponding action is respectfully requested.

Should the Examiner believe that a telephone conference would advance the prosecution of this application, Applicants' attorney would welcome such an opportunity.

Respectfully submitted,

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Enclosure